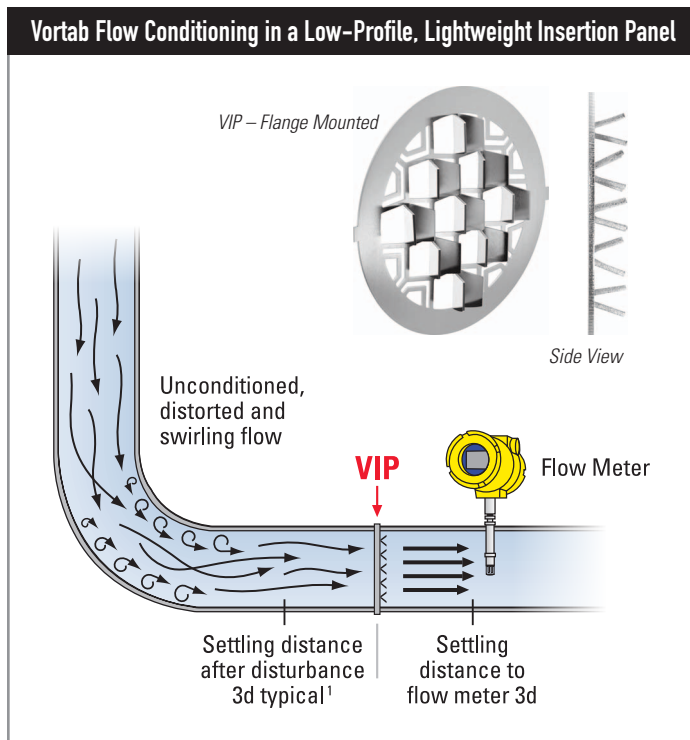


# Model VIP



## Vortab® Insertion Panel Flow Conditioner



Model VIP flow conditioners marry the scientifically proven superior performance of Vortab tab-type flow conditioning technology with the installation ease and cost savings of an insertion panel design.

### The Problem

Many flow meter technologies, and particularly center-point types, require several diameters of straight pipe run to meet their published accuracy specification. This straight-run is required to provide a swirl-free and repeatable flow profile to the flow meter. However, in practical applications industrial plant piping is rich with elbows, valves, tees and real estate limitations that make these straight-runs impossible to attain. These create an unrepeatable, asymmetric and swirling flow profile ultimately resulting in flow meter inaccuracies. Further, in low-flow, wide turn-down applications, the transitional zone between laminar and turbulent flow conditions may induce additional inaccuracies.<sup>2</sup>

### The Solution

Install a Vortab VIP flow conditioner. Installed in as little as 1.5 pipe diameters downstream from the flow disturbance and with the flow meter at 3 diameters downstream of the VIP, flow profile anomalies are completely neutralized so that the flow meter receives a swirl-free, symmetric and repeatable flow profile. VIP has been engineered and validated utilizing sophisticated flow modeling software tools, and in Vortab's NIST traceable flow stands under actual installation conditions with elbows, valves, headers and other disturbers. It is particularly effective with wide-turn-down and/or low flow sensitive flow meter technologies (e.g. thermal dispersion) to provide a highly repeatable flow profile during laminar, transitional and turbulent flow conditions.

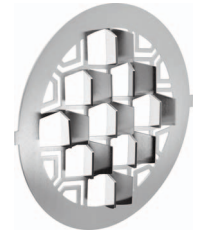
- **Exclusive, Patent Pending Vortab Flat Panel Design**
- **Low Cost, Fast Installation**
- **Low Pressure Drop**
- **Significantly Reduces Flow Meter Straight-Run Requirements**
  - Repeatable Flow Profile in 3 Diameters
- **FCI Endorsed for Use with Thermal-Dispersion Gas Mass Flow Meters**
- **Available For Pipe Sizes  $\geq 2"$  [ $\geq 50$  mm]**



2" Flange Mounted



4" Weld In Place



10" Flange Mounted

### VIP Specifications

**Materials of Construction:** 316L stainless steel; contact Vortab for other materials

**Pipe Sizes:** 2" to 40" [50 mm to 999.9 mm] standard; larger sizes available – contact Vortab

**Installation:** Weld in place or flange mounted; ANSI or DIN

**Shipping Weight:** (approximate) 2 lbs per inch diameter [0,9 kg per 25 mm]

*Ordering VIP is easy – determine your pipe I.D. and whether you will weld in place or flange mount. If you are ordering a flange mount VIP, also provide flange type and rating.*

**Vortab Company | [www.Vortab.com](http://www.Vortab.com)**  
**Vortab is ISO 9001:2000 and AS9100 Certified**

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<sup>1</sup> VIP can be successfully installed in less than 3d depending on type of disturbance and flow rates; FCI has performed extensive tests with various disturbances at 0d and 1.5d; please contact Vortab Company for recommended VIP placement

<sup>2</sup> For more information, download *Transitional Flow Effects on Flow Meter Measuring Accuracy* from the Vortab website: [www.vortab.com/SalesLiterature.htm](http://www.vortab.com/SalesLiterature.htm)